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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,639	11/04/2003	Charles T. Force	FORC3001/BEU	3941

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EXAMINER	
CHAN, RICHARD	
ART UNIT	**PAPER NUMBER**
2618	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/699,639	FORCE ET AL.	
	Examiner	Art Unit	
	Richard Chan	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-58* is/are pending in the application.

4a) Of the above claim(s) *1-25* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *26-37 and 39-58* is/are rejected.

7)☒ Claim(s) *38* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Invention II (Claims 26-58) in the reply filed on 5/3/07 is acknowledged.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 40 is rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The term Posterori is not critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

4. Claim 41 is rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The term BCJR is not critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 26, 33, 36, 45, and 46 are rejected under 35 U.S.C. 102(e) as being anticipated by Ramberg (US 6,628,699).

With respect to claim 26, Ramberg discloses the receiver Fig.6 for use in receiving satellite broadcasts, comprising: a small antenna 100 providing nearly hemispherical coverage; a low noise amplifier 106 connected to amplify a signal received by the antenna 100; a sync detection step 328 and demodulation unit 332 connected to recover timing signals from an amplified signal output by the low noise amplifier; (Col. 7 line 44-56) a plurality of receiver channel processors 120 to correlator 114 connected to the low noise amplifier and the sync detection and demodulation unit, each channel processor including a spread spectrum decoder, a demodulator, and an error correction decoder, for recovering baseband signals. (Col.7 line 44-Col.8 line 18)

With respect to claim 33, Ramberg discloses the receiver as claimed in claim 26, wherein said amplifier includes a Field Effect Transistor.

With respect to claim 36, Ramberg discloses the receiver as claimed in claim 26, wherein said sync detection and demodulation unit includes an active carrier tracking processor. (Col.11 line 36-44)

With respect to claim 37, Ramberg discloses the receiver as claimed in claim 36, wherein said sync detection and demodulation unit further includes a sync processor for detecting and demodulating a CW clock tone to generate a sync pulse. (Col.11 line 58-62)

With respect to claim 45, Ramberg discloses the receiver as claimed in claim 26, further comprising a channel expander for decompressing the baseband signal. (Col.5 line 3-9)

With respect to claim 46, Ramberg discloses the receiver as claimed in claim 26, further comprises a channel assembler for assembling data packets output by the combiner if the satellite broadcast includes packetized data. (Col.5 line 3-9)

7. Claims 52 and 53 are rejected under 35 U.S.C. 102(e) as being anticipated by Spallink (US 7,016,446).

With respect to claim 52, Spalink discloses the C-band broadcast signal consisting of a digital signal that has been encoded to provide Forward Error Correction (Col.1 line 20-34), spread over a large frequency band, and used to modulate a satellite uplink carrier.

With respect to claim 53, Spalink discloses the C-band -broadcast signal as claimed in claim 52, wherein the C-band broadcast signal is compressed by frequency domain transform coding, and the frequency domain transform coding is MPEG-4 with Advanced Audio Coding. (Col.1 line 35-43)

8. (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claim 58 is rejected under 35 U.S.C. 102(b) as being anticipated by Assal (US 4,931,802).

With respect to claim 58, Assal discloses the C-band broadcasting method comprising the step of using multi-channel receivers arranged to receive redundant signals, said redundant signals including one of a time-delayed redundant signal and a redundant signal received from a second satellite. (Col. 13 line 56- Col.14 line 2)

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ramberg (US 6,628,699) in view of Woodworth (US 4,876,737).

With respect to claim 27, The Ramberg reference discloses the receiver as claimed in claim 26, however Ramberg does not specifically disclose wherein said satellite broadcasts are C-band satellite broadcasts.

The Woodworth reference however discloses a satellite C-Band broadcasts. (Col.1 line 56-61)

It would have been obvious to one of ordinary skill in the art to one of ordinary skill in the art to implement C-Band broadcast as disclosed by Ramberg with the receiver of Ramberg in order to operate in the C-Band.

12. Claims 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ramberg (US 6,628,699) in view of Woodworth (US 4,876,737) in further view of Assal (US 4,931,802).

With respect to claim 28, Ramberg and Woodworth combined disclose the receiver as claimed in claim 26, however neither reference discloses the receiver capable of receiving and processing redundant signals that are time-delayed signals or signals broadcast by different satellites.

The Assal reference however discloses said redundant signals including one of a time-delayed redundant signal and a redundant signal received from a second satellite. (Col. 13 line 56- Col.14 line 2)

It would have been obvious to one of ordinary skill in the art to combine the time-delayed redundant signal as disclosed by Assal reference with the Ramberg and Woodworth reference in order to properly sync signals.

13. Claims 29-32, 34, 35, 42, 44, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramberg (US 6,628,699).

With respect to claim 29, Ramberg discloses the receiver as claimed in claim 26, the examiner takes Official notice that said antenna is a phased array antenna.

With respect to claim 30, Ramberg discloses the receiver as claimed in claim 29, the examiner takes Official notice of said antenna is a conformal retrodirective phased array antenna.

With respect to claim 31, Ramberg discloses the receiver as claimed in claim 29, the examiner takes Official notice of said antenna is a square flat flexible panel.

With respect to claim 32, Ramberg discloses the receiver as claimed in claim 29, the examiner takes Official notice of said element in the phased array is a crossed dipole.

With respect to claim 34, Ramberg discloses the receiver as claimed in claim 33, the examiner takes Official Notice wherein said amplifier includes a High Mobility Electron Field Effect Transistor for at least one element of said antenna.

With respect to claim 35, Ramberg discloses the receiver as claimed in claim 34, the examiner takes Official Notice wherein said amplifier includes an Indium Gallium Arsenide High Mobility Electron Field Effect Transistor.

With respect to claim 42, Ramberg discloses the receiver as claimed in claim 26, the examiner takes Official Notice wherein a number of said channel processors is equal to a number of channels being received at any one time.

With respect to claim 44, Ramberg discloses the receiver as claimed in claim 26, the examiner takes Official Notice wherein at least one additional said receiver channel processor is used to process emergency or public service information.

With respect to claim 47, Ramberg discloses the receiver as claimed in claim 26, the examiner takes Official Notice wherein the receiver further comprising at least one

processor selected from the group consisting of an audio format processor and a video format processor.

14. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ramberg (US 6,628,699) in view of Fattouche (US 6,192,068).

With respect to claim 39, Ramberg discloses the receiver as claimed in claim 26, however the Ramberg reference does not specifically disclose wherein the spread spectrum decoder is a Direct Sequence Spread Spectrum Code Division Multiple Access decoder.

The Fattouche reference discloses a DSSS system introduced to a CDMA system used for spreading. (Col.1 line 46-54)

It would have been obvious to one of ordinary skill in the art to implement a DSSS system for spreading the spectrum as disclosed by Fattouche with the Ramberg reference in order to implement a specific spreading.

15. Claims 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ramberg (US 6,628,699) in view Assal (US 4,931,802).

With respect to claim 43, Ramberg discloses the receiver as claimed in claim 26, wherein a first said receiver channel processor is used for a first primary data channel

114, a second said receiver channel processor is used for a second primary data channel 118, Fig.5 (Col.7 line 44-Col.8 line 18) however the Ramberg reference does not specifically disclose a third said receiver channel processor is used for one of a time-delayed redundant signal and a signal received from a second satellite.

The Assal reference however discloses said redundant signals including one of a time-delayed redundant signal and a redundant signal received from a second satellite. (Col. 13 line 56- Col.14 line 2)

It would have been obvious to one of ordinary skill in the art to combine the time-delayed redundant signal as disclosed by Assal reference with the Ramberg reference in order to properly sync signals.

16. Claims 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ramberg (US 6,628,699) in view Saegusa (US 6,198,914).

With respect to claim 48, Ramberg discloses the receiver as claimed in claim 26, however does not specifically disclose wherein the receiver is further comprising a GPS receiver chip arranged to automatically update receiver geographic position so that when a broadcast of emergency or public service information is detected, regular operation of said receiver may be preempted if said receiver is within an area affected by said emergency or public service information.

The Saegusa reference however discloses an emergency call system wherein the GPS automatically updates the location in order to alert emergency officials when an emergency is detected. (Col.3 line 64-Col.5 line 9)

It would have been obvious to one of ordinary skill in the art to implement a GPS system to alert emergency call system in case an emergency is detected as disclosed by Saegusa with the Ramberg receiver.

17. Claims 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ramberg (US 6,628,699) in view Schmidt (US 4,985,707).

With respect to claim 49, Ramberg discloses the receiver for use in receiving C-band satellite broadcasts, comprising: a small antenna 100 providing nearly hemispherical coverage; a low noise amplifier 106 connected to amplify a signal received by the antenna; a sync detection 328 and demodulation unit 332 connected to recover timing signals from an amplified signal output by the low noise amplifier; and a plurality of receiver channel processors 120 and 122 connected to the low noise amplifier and the sync detection and demodulation unit, each channel processor including a spread spectrum decoder, a demodulator, and an error correction unit, for recovering baseband signals, (Col.7 line 44-Col.8 line 18), however Ramberg does not specifically disclose wherein said antenna is a conformal retrodirective phased array antenna.

The Schmidt reference however discloses a retrodirective phased antenna array. Fig.2

It would have been obvious to one of ordinary skill in the art to implement the retrodirective phased antenna as disclosed by Schmidt to the receiver of Ramberg in order to implement a specific type of antenna.

18. Claims 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ramberg (US 6,628,699) in view of Woodworth (US 4,876,737) in further view Assal (US 4,931,802).

With respect to claim 50, Ramberg discloses the receiver comprising: a small antenna 100 providing nearly hemispherical coverage; a low noise amplifier 106 connected to amplify a signal received by the antenna; a sync detection 328 and demodulation unit 332 connected to recover timing signals from an amplified signal output by the low noise amplifier; and a plurality of receiver channel processors connected to the low noise amplifier and the sync detection and demodulation unit, each channel processor including a spread spectrum decoder, a demodulator, and an error correction unit, for recovering baseband signals, (Col.7 line 44-Col.8 line 18), wherein a first said receiver channel processor 120 is used for a first primary data channel, a second said receiver channel processor 120 is used for a second primary data channel however the Ramberg reference does not specifically disclose a third said receiver channel processor is used for one of a time-delayed redundant signal and a

signal received from a second satellite or when the receiver operates with the C-Band frequency.

The Assal reference however discloses said redundant signals including one of a time-delayed redundant signal and a redundant signal received from a second satellite. (Col. 13 line 56- Col.14 line 2)

It would have been obvious to one of ordinary skill in the art to combine the time-delayed redundant signal as disclosed by Assal reference with the Ramberg reference in order to properly sync signals.

The Woodworth reference however discloses a satellite C-Band broadcasts. (Col.1 line 56-61)

It would have been obvious to one of ordinary skill in the art to one of ordinary skill in the art to implement C-Band broadcast as disclosed by Ramberg with the receiver of Ramberg in order to operate in the C-Band.

19. Claims 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ramberg (US 6,628,699) in view of Woodworth (US 4,876,737) in further view Assal (US 4,931,802) in view Saegusa (US 6,198,914).

With respect to claim 51, Ramberg, Woodworth, and Assal combined disclose the receiver as claimed in claim 50, however the three references do not specifically disclose wherein at least one additional said receiver channel processor is used to process emergency or public service information.

The Saegusa reference however discloses an emergency call system wherein the GPS automatically updates the location in order to alert emergency officials when an emergency is detected. (Col.3 line 64-Col.5 line 9)

It would have been obvious to one of ordinary skill in the art to implement a GPS system to alert emergency call system in case an emergency is detected as disclosed by Saegusa with the Ramberg receiver.

20. Claims 54 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spalink (US 7,016,446) in view of Cameron (US 6,940,928).

With respect to claim 54, Spalink discloses the C-band broadcast signal as claimed in claim 52, however Spalink does not specifically disclose wherein said encoding for Forward Error Correction uses a Recursive Systematic Convolution Turbo Code.

The Cameron reference however discloses a recursive Systematic Convolution Turbo Code in Fig.17 and 21. (Col.28 line 64- Col.29 line 4)

It would have been obvious to one of ordinary skill in the art to implement the Systematic Convolution Turbo Code as disclosed by Cameron with the Forward Error Correction in order to implement a specific type of encoder.

With respect to claim 55, Spalink and Cameron combined disclose the C-band broadcast signal as claimed in claim 54, wherein said encoding for Forward Error Correction is carried out at rate 2/3. (Col.28 line 60-63)

21. Claim 56 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spalink (US 7,016,446) in view of Fattouche (US 6,192,068).

With respect to claim 56, Spalink discloses the C-band broadcast signal as claimed in claim 52, however Spalink does not specifically disclose wherein said spreading is carried out using Direct Sequence Code Division Multiple Access encoding.

The Fattouche reference discloses a DSSS system introduced to a CDMA system used for spreading. (Col.1 line 46-54)

It would have been obvious to one of ordinary skill in the art to implement a DSSS system for spreading the spectrum as disclosed by Fattouche with the Spalink reference in order to implement a specific spreading.

With respect to claim 57, Spalink discloses the C-band broadcast signal as claimed in claim 52, however Spalink does not specifically disclose wherein said modulation is carried out by Phase Shift Keying.

The Fattouche reference however discloses wherein said modulation is carried out by Phase Shift Keying. (Col.5 line 21-34)

It would have been obvious to one of ordinary skill in the art to implement Phase Shift Keying as disclosed by Fattouche to the Spalink system in order to implement a modulation scheme.

Allowable Subject Matter

22. Claim 38 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With respect to claim 38, the prior art does not specifically disclose the receiver as claimed in claim 36, wherein one said sync processor processes a sync signal for a primary transponder, and a second said sync processor processes a sync signal for an unsynchronized second transponder on the same or another satellite.

Conclusion

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Chan whose telephone number is (571) 272-0570. The examiner can normally be reached on Mon - Fri (9AM - 5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571)272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Richard Chan
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7/23/07

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